

**REMARKS**

Reconsideration of the application in view of the above amendments and the following remarks is respectfully requested.

Claims 1-19 are pending in this application. Claims 10-14 have been amended.

5 The office action states that Claims 1-19 are rejected under Section 35 U.S.C. 112 as being indefinite.

Claim 1 claims "a vessel for containing a gas and maintaining an excitation in the gas volume". Applicant states that the specification clearly states that the excitation is maintained either by a discharge in the volume (fig. 6) or by a discharge surrounding the gas volume, (fig 10 7), where the gas volume is excited by radiation passing through a screen to excite the gas in the gas volume.

Applicant states that the "A" type structure of the claim is clear from fig. 1 and from the specification at p 11 lines 3-8. Possible 3 level structures are identified, one of which is a "A" type structure. Perhaps Examiner is confused since, in Fig. 1, the lines suggesting radiation from 15 the highest energy state to the two lower energy states do not start from the same point, as is often the practice in the art of drawing energy level diagrams. When so drawn, such lines form a A shape. Since the term is well defined in the specification, and the inventor is allowed to be his own lexicographer, claim 1 is allowable under Section 35 U.S.C. 112.

Applicant states that the expression "coherent radiation at optical frequencies  $\nu_0$  and 20  $\nu_0'$ " is well understood by one of skill in the laser art to be two laser beams, and that "intense narrow-band fluorescence" is not describing a laser beam.

Applicant has amended claim 10 to correct a typographical error and to remove the indefinite construction.

Applicant has amended claims 11-14 to remove possible indefinite constructions.

25 Applicant states that claims 1-19, as amended, are patentable under Section 35 U.S.C. 112.

Claims 1,2,4, and 10 are rejected under Section 35 U.S.C. 102(b) as being anticipated by (US 4348599)

Applicant states that Pradarc does not mention or suggest

“wherein intense narrow-band fluorescence is emitted from said excitation at  
frequencies  $\nu_0$  and  $\nu_0'$  of allowed optical transitions of constituents of the gas”,

or

“wherein said optical transitions share a common upper energy level and form a  $\Lambda$  type structure,  
and wherein one or both lower energy levels are populated in said gas volume,”

or

“whereby monochromatic laser beams at frequencies  $\nu_0$  and  $\nu_0'$  propagating collinearly  
through said gas volume containing vessel nonlinearly convert photons from said  
fluorescence into photons of said propagating beams, thus amplifying said beams.”

Note that *both* beams of the present invention are amplified. The energy comes from  
the fluorescent light. In the normal Raman laser, a photon from a powerful laser light beam are  
converted to photons at a different frequency, (generally at a lower frequency) and the system  
(gas, ions, molecules atoms, or whatever) is left in a higher energy state. In the present  
invention, incoherent light is converted to coherent light.... from “cheap” photons to “expensive”  
photons, of the *same* frequency.

Similarly, Hodgson (3,892,979) does not mention or suggest the above claim elements.  
The undersigned would have loved to have understood enough about lasers in 1970 to have so  
suggested, but still remains flattered that his first issued US patent is occasionally dusted off by  
an Examiner who clearly relies on more than computer searches.

Applicant states that claims 1-19 are allowable under Section 35 U.S.C. 102(b) since important claim elements are not mentioned or suggested in the cited art.

Examiner has stated that dependent claims are rejected under Section 35 U.S.C. 103(a). Since the independent claim is allowable, all dependent claims are allowable. In addition, the dependent claims are inventive over their respective parent claims.

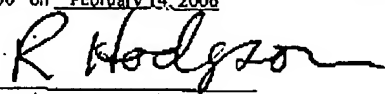
No additional fee is required. The required fees and any insufficiency or overage (except issue fees) may be debited or credited to deposit account 08/2240. A signed deposit account authorization is on file for this case.

On the basis of the above amendments and remarks, reconsideration of this application and its early allowance is respectfully requested.

**CERTIFICATE OF FACSIMILE TRANSMISSION UNDER 37 CFR 1.8(a) and (b), 37CFR 1.86(f)-**

I hereby certify that the following attached correspondence comprising Response and Amendment is being sent by facsimile transmission to Commissioner of Patents, Alexandria, VA 22313-1450 FAX NUMBER 571-273-1800 on February 14, 2006

Respectfully,



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